

# EUROPEAN PATENT OFFICE

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TITLE : PRODUCTION OF DIMETHYL ETHER

ABSTRACT : PURPOSE: To obtain the title compound with catalytic activity stable for a long period of time by dehydration of methanol in the presence of a  $\gamma$ -alumina catalyst with its physical properties regulated within a specified range.

CONSTITUTION: Methanol is dehydrated at 200 - 400°C under a pressure of 1 - 20 kg/cm<sup>2</sup> at a gas normal space velocity of 500 - 10000 hr<sup>-1</sup> in the presence of a porous  $\gamma$ -alumina catalyst having the following characteristics: (1) surface area: 210 - 300 (pref. 230 - 290)m<sup>2</sup>/g; (2) volume of the pores with the radius smaller than 300  $\text{\AA}$ : 0.60 - 0.90 (pref. 0.62 - 0.85)ml/g; and (3) average pore radius: 50 - 100 (pref. 50 - 80)  $\text{\AA}$ .

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